# Closing Canada's COVID-19 vaccination gap

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he Delta variant of SARS-CoV-2 may drive the threshold for herd immunity higher, necessitating vaccination rates over 80%. But nine months into Canada's vaccine rollout, 32% of the population and 22% of people who are eligible have not yet received two shots.

Clinics and governments are getting creative to encourage the hesitant across the vaccination finish line — from reducing barriers to accessing the shots to rewarding people who get them.

### **Mandates hold promise**

So far, vaccine mandates have proven the most effective strategy for increasing uptake. Quebec, British Columbia and Ontario all saw vaccination appointments double the day they unveiled plans to require proof of vaccination for recreational activities like indoor dining and sporting events. Manitoba and Newfoundland and Labrador have since announced similar vaccine passport programs.

International experience suggests that mandates can have a major impact on vaccination rates over time. A month after France introduced proof of vaccination policies for travel, shopping, dining, and other recreational activities, nearly 72% of the population had received a first COVID-19 vaccine, up from 64% before the announcement. Meanwhile, the number of new SARS-CoV-2 infections in France dropped from 23000 per day the week of August 9 to 15911 as of September 2.

### **Mixed results from lotteries**

Canadian provinces have also seen modest success from offering financial incentives for getting vaccinated.

Manitoba was the first province to offer a lottery incentive with nearly \$2 million in cash prizes, including 10 scholarships of \$25 000 for eligible teens. The lottery was open to all Manitobans who received a first COVID-19 shot by August 2 and a second shot by September 6.

Manitoba saw an increase of "several hundred" vaccination appointments over five days after the lottery announcement, according to a provincial spokesperson, who noted that many Manitobans are also getting vaccinated at walk-in clinics. "The lottery accomplished the key goal of raising awareness about the need to get vaccinated and protected against COVID-19," they said.

Still, it's unclear how much lotteries influence the vaccine hesitant. One survey of 600 Manitobans found that information was the biggest driver of vaccine uptake and financial incentives had "very little impact" generally. However, that impact increased with the value of the prize, with one in five respondents saying they would be much more likely to get vaccinated immediately if offered \$50–\$100.

Alberta offered three \$1-million lottery draws for vaccinated residents over the summer. Runner-up prizes included VIP packages for sporting events, allinclusive vacations, domestic and international flights, and Rocky Mountaineer rail tickets. The province also ran an "outdoor adventure" lottery for vaccinated Albertans with prizes including camping trips, ski passes, fishing licenses and hunting licenses.

Some two million people entered the lotteries from their announcement in mid-June to the end of July. Over the same period, the number of Albertans with a first COVID-19 vaccine increased from 2.6 million to 2.8 million. Meanwhile,

the number fully vaccinated increased from 729 137 to 2.4 million.

"While it is difficult to attribute vaccine uptake to a singular initiative, since the Open for Summer lottery launched, Alberta has successfully reached Stage 3 of its reopening plan and has established strong community protection from COVID-19," a provincial spokesperson told *CMAJ*.

Since then, vaccine uptake in Alberta has slowed. On September 3, Premier Jason Kenney announced that the province would give \$100 to people who got a first or second shot by October 14. However, fewer Albertans got vaccinated in the week following the announcement than the week before.

### Soothing needle fears

Hesitancy isn't the only reason some people remain unvaccinated. Barriers to access can also contribute to low uptake in certain populations.

Toronto's Centre for Addiction and Mental Health (CAMH) has administered several hundred vaccine doses through special access clinics for people with neurodevelopmental disorders, needle phobia, and anxiety in medical settings.

"This next phase of the rollout is about reaching those who are harder to reach," said clinic manager Erin LeDrew.

The special access clinics offer vaccines in a quiet atmosphere with added privacy booths for patients who wish to lie down, dimmed lighting, and televisions playing ocean and aquarium videos.

CAMH initially developed the clinic for people with neurodevelopmental disorders who are sensitive to crowds and noise. They've since created a spin-off clinic incorporating principles for managing needle phobia also known as the "CARD" system — an acronym that stands for "comfort, ask, relax and distract."

In a 2019 trial conducted in Ontario's Niagara region, students in schools that implemented the CARD system reported less fear and dizziness during vaccinations than those in control schools. Students in the intervention group could choose to sit upright or lie down to feel comfortable, ask questions about the vaccine, take deep breaths to relax, or distract themselves with items from a "distraction toolkit" that included fidget spinners, bubble pens, and pipe cleaners.

At CAMH's special access clinics, patients complete a checklist of their preferences before entering, including whether they want to see the needle, wear headphones, or remain silent.

## **Bringing the clinic home**

Elsewhere in Toronto, mobile teams have brought COVID-19 vaccines to the doorstep of people living in neighborhoods where uptake is low. Taking inspiration from flight attendants delivering refreshments to passengers in their seats, Humber River Hospital's mobile clinic has gone door-to-door in retirement homes and community housing offering vaccines and answering questions.

The model has spread across Canada, with similar programs launching in Ottawa, Montreal and La Loche, Saskatchewan. The programs especially aim to reach people who don't speak English or are otherwise unable to book appointments or attend mass clinics.

In La Loche, mobile teams administered door-to-door vaccinations to 244 people over two days in June. "We know through our past work in the area that [lack of] transportation, even in a small community, can be a barrier to accessing care," according to Jennifer

Ahenakew, executive director of primary for the northwest of Saskatchewan.

"Community members noted feeling more comfortable receiving their vaccine at home and not in a health care setting," Ahenakew told *CMAJ*. "Immunizers noted this provided more time to educate people about the vaccine and allowed them to answer any concerns or questions the community members may have had, which appeared to assist with hesitancy."

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